REMARKS/ARGUMENTS

Claims 56-61 are pending in the present application. Claims 59 to 61 are amended to correct a minor typographical error. No new matter is added by this amendment.

Claims 57 to 61 are rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite. The claims are also rejected under 35 U.S.C. §103(a) for allegedly being obvious over Kazlauskas *et al.* (*Cell* (1989), 58:1121-1133), in view of Kolesnick *et al.* (US Patent No. 6040149) and further in view of Gronwald *et al.* (*Proc. Natl. Acad. Sci. USA* (1988), 85(10):3435-3439) and Sporn *et al.* (*The Journal of Clinical Investigations* (1986), 78:329-332). Each of these rejections are addressed below.

Applicants note with appreciation the time taken by Examiner Allen in the brief telephone interview on January 26, 2006 to discuss the outstanding rejections. As discussed further below, the question of whether the Kolesnick *et al.* patent is prior art to the present application was discussed.

Rejection under 35 U.S.C. §112, second paragraph

In the Office Action, the Examiner notes that claim 57 mistakenly claims priority to itself and that all subsequent claims claim priority to claim 57. Claims 57-61 have been amended to claim priority to claim 56. Withdrawal of the rejection is respectfully requested.

Rejection Under 35 U.S.C. §103(a)

The rejection of the claims for allegedly being obvious over the combination of Kazlauskas *et al.* in view of Kolesnick *et al.* and further in view of Gronwald *et al.* and Sporn *et al.* is respectfully traversed.

As noted in the Office Action, the presently claimed invention is based, at least in part, on the discovery of the direct interaction between PDGF-R and PI3 kinase. In particular, the present inventors have shown that the direct binding occurs in the kinase insert region around tyrosine 751 of PDGF-R.

As explained previously, Kazlauskas *et al.*, teaches that phosphorylation of Tyr 751 is required for stable interactions between PDGF-R and other cellular proteins. The region

of the receptor that participates in the binding is ***not*** disclosed, however. Indeed, the authors describe their experiments as only establishing that "autophosphorylation of Tyr-751 provides the signal for a ***conformational change*** that allows stable interactions with a number of cellular proteins. (page 1130, left column, emphasis added). Thus, the authors themselves suggested that phosphorylation leads to a conformational change that allows binding and did not have a basis for predicting the exact nature of the interaction between the proteins.

The Office Action provides no arguments or evidence inconsistent with this characterization of the teachings of this reference. Indeed, at the bottom of page 4 of the Action, it is acknowledged that Kazlauskas *et al.* fail to teach using fragments of the receptor in a screening method and also fail to teach the specific sequences recited in the pending claims.

To provide the teaching missing from Kazlauskas the Office Action points to the Kolesnick *et al.* patent. Surprisingly, the Kolesnick *et al.* patent teaches nothing about PDGF-R, but is only cited for the general proposition that fragments of growth factor receptors can be used to determine the interaction between the receptor and kinase proteins. Nothing is provided to explain how the teaching missing from Kazlauskas *et al.* is found in this reference.

More importantly, as discussed with Examiner Allen, the Kolesnick *et al.* patent issued March 21, 2000 and was filed January 10, 1997. The present application has an effective filing date of February 2, 1988, almost nine years before the filing date of the Kolesnick *et al.* patent. Consequently, the Kolesnick *et al.* patent is not prior art to the present claims. It is understood by Applicants that the rejection based on this patent will thus be withdrawn.

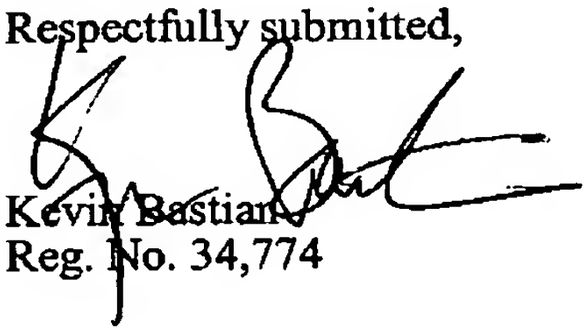
The secondary references add nothing to the teachings of Kazlauskas *et al.* in this regard. As noted previously, the Gronwald *et al.* publication is cited for teaching the sequence of PDGF-R polypeptide sequences, but neither discloses nor suggests the fragments claimed in the present invention. Sporn *et al.* is cited for teaching that PDGF is involved in various types of cancers and that antagonists are viable options in fighting disease. It provides no teaching with regard to the nature of the interaction between PDGF-R and PI3 kinase.

In conclusion, the cited references either alone or in combination, fail to disclose or suggest the claimed methods. In light of the arguments presented above, the Applicants respectfully request that the rejection under 35 U.S.C. §103(a) be withdrawn.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested. If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at 415-576-0200.

Respectfully submitted,



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Attachments
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